

What is claimed is:

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[1. ~~(Canceled)~~ A card type input/output interface device comprising:
first data transmission means for transferring data between a main
body of an electronic device and the card type input/output interface device;
second data transmission means, coupled to said first data
transmission means, for transferring data between an external device and the
card type input/output interface device; and
a card supporting said first and second data transmission means,
said first data transmission means being accommodated in said main
body when the card type input/output interface device is inserted into a slot
provided in said main body of the electronic device so as to transfer data
between said card type input/output interface device and said electronic
device.]

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2. (Once Amended) A card type input/output interface device as
claimed in claim [1] 38, wherein said second data [transmission means]
interface unit comprises radio transmitter/receiver means for transferring the
data between said external device and the card type input/output interface
device through a radio communications channel

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[3. ~~(Canceled)~~ A card type input/output interface device as claimed in
claim 2, and further comprising data transfer circuit means, interposed
between said first and second data interface unit, for providing an interface of
data transfer between said first data interface unit and said radio
transmitter/receiver means.]

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4. (Once Amended) A card type input/output interface device as
claimed in claim 2, wherein said second data [transmission means] interface
unit comprises an antenna coupled to said radio transmitter/receiver means.

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5. (Never Amended) A card type input/output interface device as claimed in claim 4, wherein said antenna is a rod type antenna.

6. (Never Amended) A card type input/output interface device as claimed in claim 4, wherein said antenna is a rod type antenna which is contractible and expandable.

7. (Never Amended) A card type input/output interface device as claimed in claim 4, wherein said antenna is a rod type antenna which is contractible and expandable and which is rotatably supported to said card.

8. (Never Amended) A card type input/output interface device as claimed in claim 4, wherein said antenna is an edge portion of said card.

171 173 I 9. (Once Amended) A card type input/output interface device as claimed in claim [1] 38, wherein:

173 I said card has a projection in which said second data [transmission means] interface unit is provided;

171 173 I said first data [transmission means] interface unit is located in a first end portion of said card and said second data [transmission means] interface unit is located in a second end portion opposite said first end portion; and

a thickness of said second end portion of said card including said projection is greater than a thickness of said first end portion of said card.

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10. (Never Amended) A card type input/output interface device as claimed in claim 9, wherein said projection upwardly projects from a surface of said card.

11. (Never Amended) A card type input/output interface device as claimed in claim 9, wherein said projection projects upwardly and downwardly projects from opposing surfaces of said card.

12. (Never Amended) A card type input/output interface device as claimed in claim 9, wherein:

said card has a first width in said first end portion;
said projection has a second width in said second end portion; and
said first width is equal to said second width.

13. (Never Amended) A card type input/output interface device as claimed in claim 9, wherein:

said card has a first width in said first end portion;
said projection has a second width in said second end portion; and
said second width is smaller than said first width.

14. (Once Amended) A card type input/output interface device as claimed in claim 9, wherein said second data [transmission means] interface unit comprises a connector formed in said projection for electrically connecting the card type input/output interface device to said external device.

15. (Never Amended) A card type input/output interface device as claimed in claim 14, wherein said connector is a pin modular connector.

16. (Never Amended) A card type input/output interface device as claimed in claim 14, wherein said connector is a Centro-connector.

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17. (Never Amended) A card type input/output interface device as claimed in claim 14, wherein said connector is an RS-232C connector.

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18. (Twice Amended) A card type input/output interface device as claimed in claim [1] 38, wherein said first data [transmission means] interface unit comprises a connector for electrically connecting said [the] card type input/output interface device to said electronic device.

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[19. (Canceled) An electronic device system comprising:
a main body of an electronic device, said main body comprising a slot;
a card type input/output interface device operable to be inserted into said slot; and
an external device,
wherein said card type input/output interface device comprises:
first data transmission means, for transferring data between the main body and the card type input/output interface device;
second data transmission means, coupled to said first data transmission means, for transferring data between said external device and said card type input/output interface device; and
a card supporting said first and second data transmission means,
said first data transmission means being accommodated in said main body when said card type input/output interface device is inserted into said slot provided in the main body so as to transfer data between said external device and said card type input/output device and said electronic device, and
wherein:
the main body comprises third data transmission means, coupled to said first data transmission means, for coupling the main body and said card type input/output interface device with each other and transferring data therebetween; and
said external device comprises fourth data transmission means, coupled to said second data transmission means, for coupling said card type input/output interface device and said external device with each other and transferring data therebetween.]

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171 173 20. (Twice Amended)

An electronic [device] system as claimed

I in claim [19] 39, wherein:

171 173 said second data [transmission means] interface unit comprises first radio transmitter/receiver means for transferring the data between said external device and said card type input/output interface device through a radio communications channel [; and].

173 [said fourth data transmission means comprises second radio transmission/receiver means for transferring the data between said external device and said card type input/output interface device through said radio communications channel.]

171 [21. (Canceled)

173 An electronic device system as claimed in claim 19, wherein said card type input/output interface device further comprised data transfer circuit means, interposed between said first and second data interface unit, for providing an interface of data transfer between said first data interface unit and said first radio transmitter/receiver means.]

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An electronic [device] system as claimed

in claim 20, wherein:

171 173 said second data [transmission means] interface unit comprises a first antenna coupled to said first radio transmitter/receiver means [; and].

173 [said fourth data transmission means comprises a second antenna coupled to said second radio transmitter/receiver means.]

171 173 23. (Once Amended) An electronic [device] system as claimed in claim

22, wherein said first antenna is a rod type antenna.

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24. (Once Amended) An electronic [device] system as claimed in claim 22, wherein said first antenna is a rod type antenna which is contractible and expandable.

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25. (Once Amended) An electronic [device] system as claimed in claim 22, wherein said first antenna is a rod type antenna which is contractible and expandable and which is rotatably supported to said card.

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26. (Once Amended) An electronic [device] system as claimed in claim 22, wherein said first antenna is an edge portion of said card.

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27. (Twice Amended) An electronic [device] system as claimed in claim [19] 39, wherein:
said card has a projection in which said second data [transmission means] interface unit is provided;
said first data [transmission means] interface unit is located in a first end portion of said card and said second [connection means] data interface unit is located in a second end portion opposite said first end portion; and
a thickness of said second end portion of said card including said projection is greater than a thickness of said first end portion of said card.

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28. (Once Amended) An electronic [device] system as claimed in claim 27, wherein said projection upwardly projects from a surface of the card.

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29. (Once Amended) An electronic [device] system as claimed in claim 27, wherein said projection projects upwardly and downwardly [projects] from opposing surfaces of said card.

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30. (Once Amended) An electronic [device] system as claimed in claim 27, wherein:

said card has a first width in said first end portion;
said projection has a second width in said second end portion; and
said first width is equal to said second width.

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31. (Once Amended) An electronic [device] system as claimed in claim 27, wherein:

said card has a first width in said first end portion;
said projection has a second width in said second end portion; and
said second width is smaller than said first width.

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32. (Twice Amended) An electronic [device] system as claimed in claim 27, wherein said second data [transmission means] interface unit comprises a connector formed in said projection for electrically connecting said card type input/output interface device to said external device.

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33. (Once Amended) An electronic [device] system as claimed in claim 32, wherein said connector is a pin modular connector.

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34. (Once Amended) An electronic [device] system as claimed in claim 32, wherein said connector is a Centro-connector.

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35. (Once Amended) An electronic [device] system as claimed in claim 32, wherein said connector is an RS-232C connector.

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36. (Four Times Amended) An electronic [device] system as claimed in claim [19] 39, wherein said first data [transmission means] interface unit

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comprises a connector for electrically connecting said card type input/output
171 173 I interface device to [said] a main body of the electronic device.

cont.
171 173 8/73 37. (Four Times Amended) An electronic [device] system as claimed
I in claim 20, wherein said external device comprises [fifth] a third data
[transmission means] interface unit, coupled to [said] a second radio
transmitter/receiver means, for coupling said external device to another
external device and transferring data therebetween.

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38. (Added and Four Times Amended) A card type input/output interface device for operatively connecting an electronic device to an external device, comprising:

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a card, to be inserted into a slot provided in the electronic device;
a first data interface unit, provided on one end of the card, for coupling to the electronic device to transfer input information to the electronic device and output information from the electronic device when the card is inserted into the slot;

a second data interface unit, provided on an opposing end of the card, for coupling to the external device to transfer the output information to the external device and the input information from the external device; and

a data transfer circuit, incorporated with the card, in response to the input information being received by the second data interface unit, for transferring the input information to the first data interface unit and, in response to the output information being received by the first data interface unit, for transferring the output information to the second data interface unit.

39. (Added and Four Times Amended) An electronic system, comprising:

an electronic device, provided with a slot thereof;

an external device providing a peripheral function for the electronic device;

a card, inserted into the slot of the electronic device, for coupling the electronic device to the external device;

a first data interface unit, provided on one end of the card, for coupling to the electronic device to transfer input information to the electronic device and output information from the electronic device;

a second data interface unit, provided on an opposing end of the card, for coupling to the external device to transfer the output information to the external device and the input information from the external device; and

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a data transfer circuit, incorporated with the card, in response to the input information being received by the second data interface unit, for transferring the input information to the first data interface unit and, in response to the output information being received by the first data interface unit, for transferring the output information to the second data interface unit.

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40. (Added and Thrice Amended) A card type input/output interface device for operatively connecting an electronic device to an external device, comprising:

a card, to be inserted into a slot provided in the electronic device, provided with a first end portion and a second end portion opposite to the first end portion;

a data transfer circuit, incorporated with the card, for transferring information between the electronic device and the external device;

a first data connector, provided on the first end portion of the card, for electrically connecting the data transfer circuit to the electronic device when the card is inserted into the slot; and

a second data connector, provided on the second end portion of the card, for coupling the data transfer circuit to the external device.

41. (Added and Thrice Amended) A card type input/output interface device for operatively connecting an electronic device to an external device, comprising:

a card, to be inserted into a slot provided in the electronic device;

a data connector for transferring input information to the electronic device and output information from the electronic device when the card is inserted into the slot;

a wireless data transmitter/receiver for transmitting the output information to the external device and for receiving the input information from the external device via a wireless communication channel; and

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a data transfer circuit, in response to receiving the input information by the wireless data transmitter/receiver, for transferring the input information to the data connector and, in response to receiving the output information by the data connector, for transferring the output information to the wireless data transmitter/receiver,

wherein the data connector, the wireless data transmitter/receiver and the data transfer circuit are incorporated with the card.

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42. (Added and Twice Amended) A card type input/output interface device according to claim 41, wherein the wireless data transmitter/receiver transmits the output information to the external device and receives the input information from the external device via a radio communication channel.

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43. (Added and Twice Amended) A card type input/output interface device for operatively connecting an electronic device to an external device, comprising:

a card, to be inserted into a slot provided in the electronic device;
a converter for receiving a parallel bit digital information from the electronic device and for converting the parallel bit digital information into a serial bit digital information when the card is inserted into the slot; and,
a data transfer circuit for transferring the serial bit digital information from the converter to the external device,

wherein the converter and the data transfer circuit are incorporated with the card.

44. (Added and Twice Amended) A card type input/output interface device for operatively connecting an electronic device to an external device, comprising:

a card, provided with a first end portion and a second end portion, opposite to the first end portion, having a thickness greater than a thickness of the first end portion;

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a data transfer circuit, incorporated with the card, for transferring information between the electronic device and the external device;

a first data connector, provided on the first end portion of the card, for electrically connecting the data transfer circuit to the electronic device when the first end portion of the card is inserted into a slot provided in the external wall in the body of the electronic device; and

a second data connector, provided on the second end portion, for coupling the data transfer circuit to the external device.

45. (Added and Thrice Amended) A system, to be operatively connected to an electronic device, comprising:

an external device providing a peripheral function for the electronic device;

a card, electrically connected to the external device to be inserted into a slot provided in the electronic device;

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a first data interface unit for transmitting input information to the electronic device and for receiving output information from the electronic device when the card interface is inserted into the slot;

a second data interface unit for transmitting the output information to the external device and for receiving the input information from the external device; and

a data transfer circuit, in response to receiving the input information by the second data interface unit, for transferring the input information to the first data interface unit and, in response to receiving the output information by the first data interface unit, for transferring the output information to the second data interface unit,

wherein the first data interface unit, the second interface unit and the data transfer circuit are incorporated with card.

46. (Added and Twice Amended) A system, to be operatively connected to an electronic device, comprising:

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an external device providing a peripheral function for the electronic device;

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a card, provided with a first end portion and a second end portion opposite to the first end portion, to be inserted into a slot provided in the electronic device;

a data transfer circuit, incorporated with the card, for transferring information between the electronic device and the external device;

a first connector, provided on the first end portion of the card, for electrically connecting the data transfer circuit to the electronic device when the first end portion of the card is inserted into the slot; and

a second connector, provided on the second end portion of the card, for electrically connecting the data transfer circuit to the external device.

47. (Added and Thrice Amended) A system, to be operatively connected to an electronic device, comprising:

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an external device providing a peripheral function for the electronic device;

a card interface, operatively connected to the external device via a wireless communication channel, to be inserted into a slot provided in the electronic device;

a data connector for transferring input information to the electronic device and output information from the electronic device when the card interface is inserted into the slot;

a wireless data transmitter/receiver for transmitting the output information to the external device and for receiving the input information from the external device via the wireless communication channel; and

a data transfer circuit, in response to receiving the input information by the wireless data transmitter/receiver, for transferring the input information to the data connector and, in response to receiving the output information by the data connector, for transferring the output information to the wireless data transmitter/receiver,

wherein the data connector, the wireless data transmitter/receiver and the data transfer circuit are incorporated with the card.

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48. (Added and Twice Amended) A system according to claim 47, wherein the wireless data transmitter/receiver transmits the output information to the external device and receives the input information from the external device via a radio communication channel.

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49. (Added and Twice Amended) A system, to be operatively connected to an electronic device, comprising:
an external device providing a peripheral function for the electronic device;
a card interface, operatively connected to the external device, to be inserted into a slot provided in the electronic device;
a converter for receiving a parallel bit digital information from the electronic device and for converting the parallel bit digital information into a serial bit digital information when the card interface is inserted into the slot;
and,
a data transfer circuit for transferring the serial bit digital information from the converter to the external device,
wherein the converter and the data transfer circuit are incorporated with the card.

50. (Added and Twice Amended) A system, to be operatively connected to an electronic device, comprising:
an external device providing a peripheral function for the electronic device;
a card, provided with a first end portion and a second end portion, opposite to the first end portion, having a thickness greater than a thickness of the first end portion;
a data transfer circuit, incorporated with the card, for transferring information between the electronic device and the external device;
a first data connector, provided on the first end portion of the card, for electrically connecting the data transfer circuit to the electronic device when the first end portion of the card is inserted into a slot provided in an external wall in the body of the electronic device; and

a second data connector, provided on the second end portion, for coupling the data transfer circuit to the external device.

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51. (Added and Twice Amended) An electronic system comprising:
an electronic device, provided with a slot;
an external device providing a peripheral function for the electronic device;

a card, provided with a first end portion and a second end portion opposite to the first end portion, the first end portion inserted into the slot of the electronic device;

a data transfer circuit, incorporated with card, for transferring information between the electronic device and the external device;

a first data connector, provided on the first end portion of the card, for electrically connecting the data transfer circuit to the electronic device; and

a second data connector, provided on the second end portion of the card, for coupling the data transfer circuit to the external device.

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52. (Added and Thrice Amended) An electronic system, comprising:
an electronic device, provided with a slot;
an external device providing a peripheral function for the electronic device;

a card, inserted into the slot of the electronic device, for operatively connecting the electronic device to the external device via a wireless communication channel;

a data connector for transferring input information to the electronic device and for receiving output information from the electronic device;

a wireless data transmitter/receiver for transmitting the output information to the external device and for receiving the input information from the external device via the wireless communication channel; and

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a data transfer circuit, in response to receiving the input information by the wireless data transmitter/receiver, for transferring the input information to the data connector and, in response to receiving the output information by the connector, for transferring the output information to the wireless data transmitter/receiver,

wherein the data connector, the wireless data transmitter/receiver and the data transfer circuit are incorporated with the card.

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53. (Added and Twice amended) An electronic system according to claim 52, wherein the wireless data transmitter/receiver transmits the output information to the external device and receives the input information from the external device via a radio communication channel.

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54. (Added and Twice Amended) An electronic system, comprising: an electronic device, provided with a slot;

an external device providing a peripheral function for the electronic device;

a card, inserted into the slot of the electronic device, and operatively connecting the electronic device to the external device;

a converter for receiving a parallel bit digital information from the electrical device and for converting the parallel bit digital information into a serial bit digital information;

a data transfer circuit for coupling the serial bit digital information from the converter to the external device,

wherein the converter and the data transfer circuit are incorporated with the card.

55. (Added and Thrice Amended) An electronic system, comprising: an electronic device, provided with a slot;

an external device providing a peripheral function for the electronic device;

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a card, provided with a first end portion inserted into the slot of the electronic device and a second end portion opposite to the first end portion, having a thickness greater than a thickness of the first end portion;

a data transfer circuit, incorporated with the card, for transferring information between the electronic device and the external device;

a first data connector, provided on the first end portion of the card, for electrically connecting the data transfer circuit to the electronic device when the card is inserted into the slot; and

a second data connector, provided on the second end portion, for coupling the data transfer circuit to the external device.